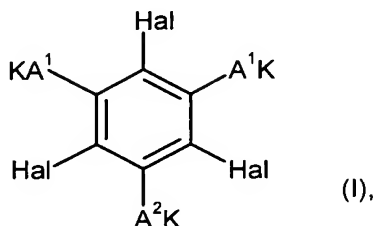


The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Previously Presented) A metal complex of formula I



in which

Hal stands for bromine or iodine,

A<sup>1</sup> stands for

-CONR<sup>1</sup>-(CH<sub>2</sub>)<sub>n</sub>-NR<sup>2</sup>-(CO-CHZ<sup>1</sup>-NH)<sub>m</sub>-CO-CHZ<sup>2</sup>-\*,

-CONR<sup>1</sup>-(CH<sub>2</sub>)<sub>p</sub>-(CONR<sup>2</sup>CH<sub>2</sub>)<sub>m</sub>-CHOH-CH<sub>2</sub>-\*,

-CH<sub>2</sub>O-(CH<sub>2</sub>)<sub>p</sub>-CHOH-CH<sub>2</sub>-\*,

-CH<sub>2</sub>-O-(CH<sub>2</sub>)<sub>n</sub>-NR<sup>1</sup>-(CO-CHZ<sup>1</sup>-NH)<sub>m</sub>-CO-CHZ<sup>2</sup>-\* , or

-CH<sub>2</sub>-NR<sup>1</sup>-CO-(CHZ<sup>1</sup>-NH-CO)<sub>m</sub>-CHZ<sup>2</sup>-\*,

A<sup>2</sup> independently has the same meaning as A<sup>1</sup> or in the case that A<sup>1</sup> has the meaning first mentioned above can also stand for the radical-NR<sup>1</sup>-CO-(NR<sup>1</sup>)<sub>m</sub>-(CH<sub>2</sub>)<sub>p</sub>-NR<sup>2</sup>-(CO-CHZ<sup>1</sup>-NH)<sub>m</sub>-CO-CHZ<sup>2</sup>-\*,

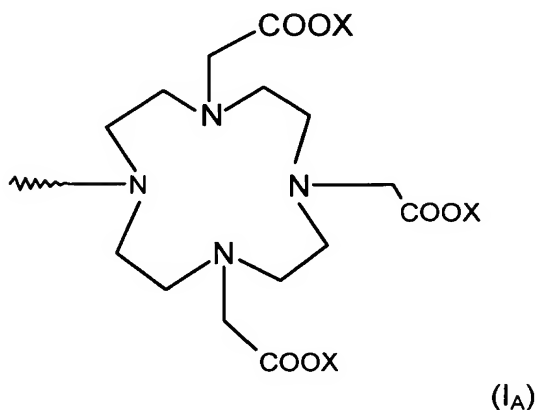
\* designates the binding site to K,

R<sup>1</sup> and R<sup>2</sup> mean, independently of one another, a hydrogen atom, a C<sub>1</sub>-C<sub>2</sub>-alkyl group or a monohydroxy-C<sub>1</sub>-C<sub>2</sub>-alkyl group,

Z<sup>1</sup> and Z<sup>2</sup> mean, independently of one another, a hydrogen atom or a methyl group,

n means the number 2-4,

m means the number 0 or 1 and  
 p means the number 1-4,  
 K stands for a macrocyclic compound of formula I<sub>A</sub>



with X meaning a hydrogen atom or a metal ion equivalent of atomic numbers 20-29, 39, 42, 44 or 57-83, provided that at least two X stand for metal ion equivalents, and optionally present free carboxy groups optionally are present as salts of organic and/or inorganic bases or amino acids or amino acid amides.

2. (Previously Presented) A metal complex according to claim 1, wherein A<sup>1</sup> stands for

- CONH(CH<sub>2</sub>)<sub>2,3</sub>NHCOCH<sub>2</sub>NHCOCH(CH<sub>3</sub>)-,
- CONH(CH<sub>2</sub>)<sub>2,3</sub>NHCOCH<sub>2</sub>NHCOCH<sub>2</sub>-,
- CONH(CH<sub>2</sub>)<sub>2,3</sub>NHCOCH<sub>2</sub>-,
- CONH(CH<sub>2</sub>)<sub>2,3</sub>NHCOCH(CH<sub>3</sub>)-,
- CONHCH<sub>2</sub>CH(OH)CH<sub>2</sub>-,
- CON(CH<sub>3</sub>)CH<sub>2</sub>CH(OH)CH<sub>2</sub>-,
- CH<sub>2</sub>OCH<sub>2</sub>CH(OH)CH<sub>2</sub>-,

-CONHCH<sub>2</sub>CONHCH<sub>2</sub>CH(OH)CH<sub>2</sub>-,  
 -CH<sub>2</sub>NHCOCH<sub>2</sub>-,  
 -CH<sub>2</sub>NHCOCH(CH<sub>3</sub>)-,  
 -CH<sub>2</sub>NHCOCH<sub>2</sub>NHCOCH<sub>2</sub>-,  
 -CH<sub>2</sub>NHCOCH<sub>2</sub>NHCOCH(CH<sub>3</sub>)-,  
 -CH<sub>2</sub>O(CH<sub>2</sub>)<sub>2</sub>NHCOCH<sub>2</sub>-,  
 -CON(CH<sub>2</sub>CH<sub>2</sub>OH)CH<sub>2</sub>CH<sub>2</sub>NHCOCH<sub>2</sub>-, or  
 -CH<sub>2</sub>O(CH<sub>2</sub>)<sub>2</sub>N(CH<sub>2</sub>CH<sub>2</sub>OH)COCH<sub>2</sub>-.

3. (Previously Presented) A metal complex according to claim 1, wherein A<sup>2</sup> stands for

-NHCOCH<sub>2</sub>NHCOCH<sub>2</sub>NHCOCH(CH<sub>3</sub>)-,  
 -NHCOCH<sub>2</sub>NHCOCH<sub>2</sub>NHCOCH<sub>2</sub>-,  
 -NHCOCH<sub>2</sub>NHCOCH<sub>2</sub>-,  
 -NHCOCH<sub>2</sub>NHCOCH(CH<sub>3</sub>)-,  
 -N(CH<sub>3</sub>)COCH<sub>2</sub>NHCOCH<sub>2</sub>-,  
 -NHCONH(CH<sub>2</sub>)<sub>2</sub>NHCOCH<sub>2</sub>-,  
 -NHCOCH<sub>2</sub>N(CH<sub>2</sub>CH<sub>2</sub>OH)COCH<sub>2</sub>-, or  
 -N(CH<sub>3</sub>)COCH<sub>2</sub>N(CH<sub>2</sub>CH<sub>2</sub>OH)COCH<sub>2</sub>-.

4. (Previously Presented) A metal complex according to claim 1, wherein at least one X stands for a metal ion equivalent of atomic numbers 21-29, 42, 44, or 58-70.

5. (Previously Presented) A metal complex according to claim 4, wherein at least one X stands for a metal ion equivalent of gadolinium(III), dysprosium(III), europium(III),

iron(III) or manganese(II).

6. (Previously Presented) A pharmaceutical composition that contains at least one metal complex according to claim 1 and one or more additives suitable for use in a galenical formulation.

7. (Previously Presented) A method of x-ray diagnosis comprising administering to a patient at least one metal complex according to claim 1 and performing x-ray diagnosis.

8. (Previously Presented) A method of MRT diagnosis comprising administering to a patient at least one metal complex according to claim 4 for and performing MRT diagnosis.

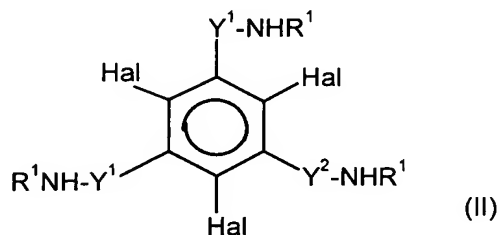
9. (Previously Presented) A pharmaceutical composition that contains a metal complex according to claim 1 in a molar ratio of 2000:1 to 1:1.

10. (Previously Presented) A pharmaceutical composition according to claim 6, wherein said at least one metal complex is dissolved or suspended in water or in a physiologically acceptable salt solution at a concentration of 0.001 to 1 mol/l.

11. (Previously Presented) A method for x-ray diagnosis or MR diagnosis of a cerebral infarction, a tumor of the liver, a space-occupying process in the liver, a tumor of the abdomen, a kidney, a muscle-skeleton system, or a blood vessel, comprising administering to a patient at least one metal complex according to claim 1, and performing x-ray diagnosis or MR diagnosis.

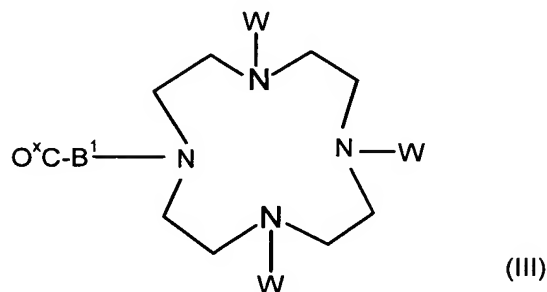
12. (Currently Amended) A process for preparing a metal complex according to claim 1, comprising

- a) reacting a triiodo- or tribromoaromatic compound of formula II



with a macrocyclic compound of formula

III



in which

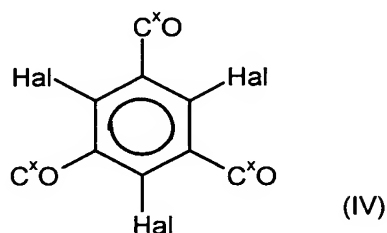
$O^xO$  stands for a  $-COOH$  or activated carboxyl group,

$W$  stands for a protective group or a  $-CH_2COOX^x$  group with  $X^x$  in the meaning of  $X$  as defined in claim 1 or a protective group and  $-Y^1-NR^1-CO-B^1-$ , which forms upon reaction of a  $Y^1NHR^1$  group of a compound of formula II with the  $O^xCB^1-$  group of a compound of formula III, stands for the radical  $A^1$  in the meaning of  $-CO-NR^1-(CH_2)_n-NR^2-(CO-CHZ^1-NH)_m-CO-CHZ^2-$  or  $-CH_2-O-(CH_2)_n-NR^1-(CO-CHZ^1-NH)_m-CO-CHZ^2-$  and  $-Y^2-$

$\text{NR}^1\text{-CO-B}^1\text{-}$ , which forms upon reaction of the  $\text{Y}^2\text{NHR}^1$  group of a compound of formula II with the  $\text{O}^x\text{CB}^1\text{-}$  group of a compound of formula III, stands for  $\text{-Y}^1\text{-NR}^1\text{-CO-B}^1\text{-}$  or for the case that  $\text{-Y}^1\text{-NR}^1\text{-CO-B}^1\text{-}$  has the meaning first mentioned above, the latter also stands for  $\text{-NR}^1\text{-CO-(NR}^1\text{)}_m(\text{CH}_2\text{)}_p\text{-NR}^2\text{-(CO-CHZ}^1\text{-NH)}_m\text{-CO-CHZ}^2\text{-}$ ,

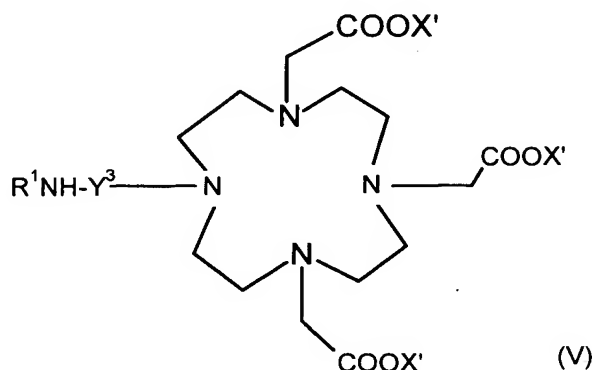
and then optionally removing protective group W and introducing the radical  $\text{CH}_2\text{COOX}$ , or optionally removing the protective group that stands for  $\text{X}'$  and then reacting with a metal oxide or metal salt of an element of atomic numbers 20-29, 39, 42, 44 or 57-83, or

b) reacting a triiodo- or tribromoaromatic compound of formula IV



with a macrocyclic compound of formula

V

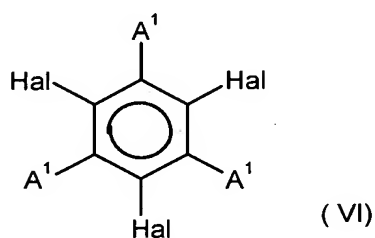


in which  $\text{-C}^x\text{O}$  and  $\text{X}'$  have the above-mentioned meaning and  $\text{-CO-NR}^1\text{-Y}^3\text{-}$ , which forms upon reaction of the  $\text{Y}^3\text{NHR}^1$  group of a compound of formula V with the  $\text{O}^x\text{C-}$  group of a

compound of formula IV, stands for radical  $A^1$  in the meaning of  $-\text{CONR}^1-(\text{CH}_2)_p-$   
 $(\text{CONR}^2\text{CH}_2)_m-\text{CH}(\text{OH})\text{CH}_2-$ ,

and then optionally removing the protective group that stands for  $X'$  and then reacting  
 with a metal oxide or metal salt of an element of atomic numbers 20-29, 39, 42, 44 or 57-83,  
 or

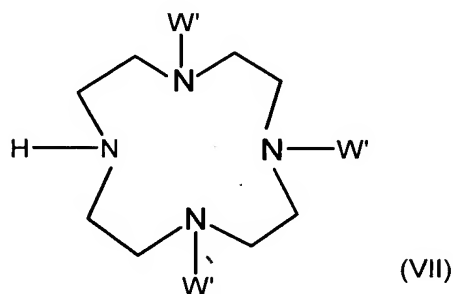
c) reacting a triiodo- or tribromoaromatic compound of formula VI



in which

$A^1$  stands for a radical  $-\text{CH}_2-\text{O}-(\text{CH}_2)_p-\text{CH}-\text{CH}_2$ ,

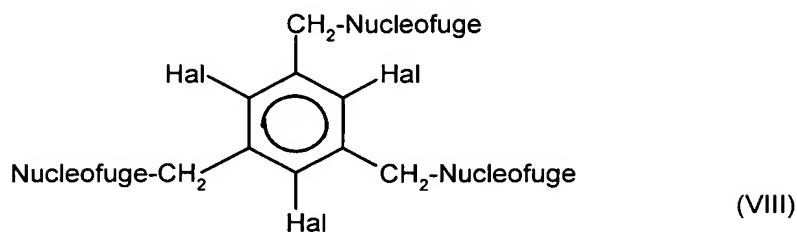
with a cyclene of general formula VII



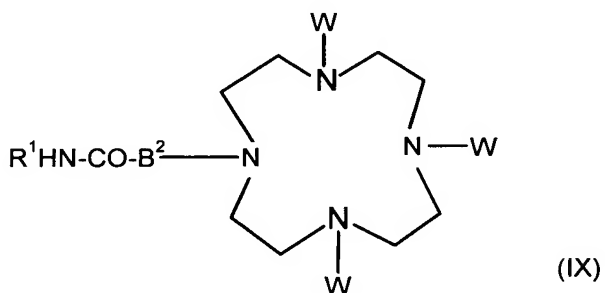
in which  $W'$  stands for a hydrogen atom or a protective group,

removing the optionally present protective groups and then introducing radical  $-\text{CH}_2\text{COOX}$  to form a metal complex of formula I with A in the meaning of radical  $-\text{CH}_2-\text{O}-(\text{CH}_2)_p-\text{CHOH}-\text{CH}_2-$ , or

d) reacting a triiodo- or tribromoaromatic compound of formula VIII



in which Nucleofuge stands for a nucleofuge group,  
with a macrocyclic compound of formula IX



in which

$R^1$  and  $W$  have the above-mentioned meanings, and  $B^2$  stands for the radical  $-(CHZ^1-NHCO)_m-CHZ^2-$ , and then further processing as indicated under a), such that metal complexes of formula I are obtained with  $A^1$  in the meaning of radical  $-CH_2-NR^1-CO-(CHZ^1-NHCO)_m-CHZ^2$ ,

then in the metal complexes, obtained according to a)-d), of ~~general~~ formula I, still present acid hydrogen atoms are optionally substituted by cations of inorganic or organic bases, amino acids or amino acid amides.

13. (Previously Presented) A process for preparing a pharmaceutical composition according to claim 6, comprising bringing into a composition said at least one metal complex



and the one or more additives suitable for use in a galenical formulation.

14. (Previously Presented) A pharmaceutical composition according to claim 6, which is in a suitable form for enteral or parenteral administration.

15. (Previously Presented) A metal complex according to claim 1, wherein A<sup>1</sup> stands for

-CONH(CH<sub>2</sub>)<sub>2,3</sub>NHCOCH<sub>2</sub>NHCOCH(CH<sub>3</sub>)-,

-CONH(CH<sub>2</sub>)<sub>2,3</sub>NHCOCH<sub>2</sub>NHCOCH<sub>2</sub>-,

-CONH(CH<sub>2</sub>)<sub>2,3</sub>NHCOCH<sub>2</sub>-,

-CONH(CH<sub>2</sub>)<sub>2,3</sub>NHCOCH(CH<sub>3</sub>)-,

-CONHCH<sub>2</sub>CH(OH)CH<sub>2</sub>-,

-CON(CH<sub>3</sub>)CH<sub>2</sub>CH(OH)CH<sub>2</sub>-,

-CH<sub>2</sub>OCH<sub>2</sub>CH(OH)CH<sub>2</sub>-,

-CONHCH<sub>2</sub>CONHCH<sub>2</sub>CH(OH)CH<sub>2</sub>-,

-CH<sub>2</sub>NHCOCH<sub>2</sub>-,

-CH<sub>2</sub>NHCOCH(CH<sub>3</sub>)-,

-CH<sub>2</sub>NHCOCH<sub>2</sub>NHCOCH<sub>2</sub>-,

-CH<sub>2</sub>NHCOCH<sub>2</sub>NHCOCH(CH<sub>3</sub>)-,

-CH<sub>2</sub>O(CH<sub>2</sub>)<sub>2</sub>NHCOCH<sub>2</sub>-, or

-CH<sub>2</sub>O(CH<sub>2</sub>)<sub>2</sub>N(CH<sub>2</sub>CH<sub>2</sub>OH)COCH<sub>2</sub>-.

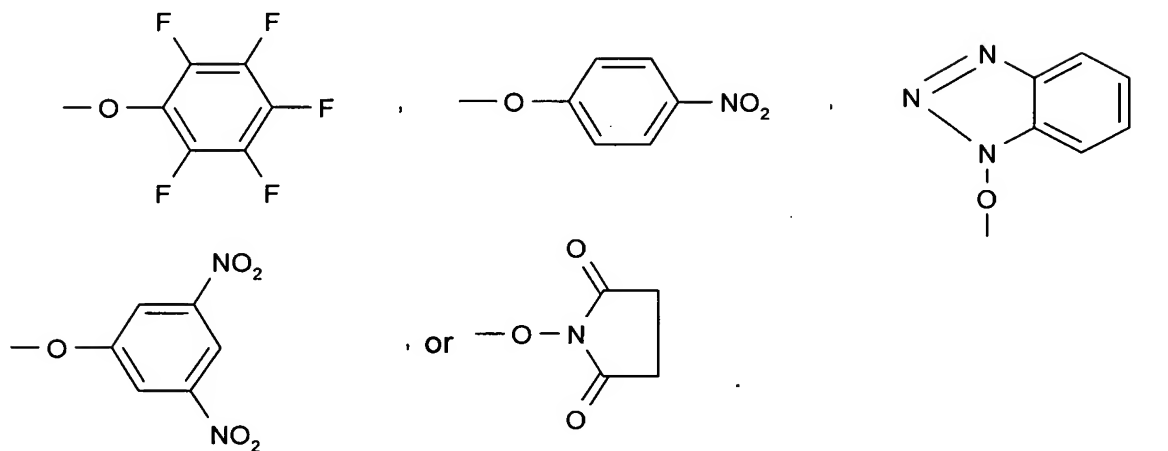
16. (Previously Presented) A metal complex according to claim 1, wherein A<sup>2</sup> stands for

-NHCOCH<sub>2</sub>NHCOCH<sub>2</sub>NHCOCH(CH<sub>3</sub>)-,

$\text{-NHCOCH}_2\text{NHCOCH}_2\text{NHCOCH}_2\text{-}$ ,  
 $\text{-NHCOCH}_2\text{NHCOCH}_2\text{-}$ ,  
 $\text{-NHCOCH}_2\text{NHCOCH}(\text{CH}_3)\text{-}$ ,  
 $\text{-N}(\text{CH}_3)\text{COCH}_2\text{NHCOCH}_2\text{-}$ ,  
 $\text{-NHCOCH}_2\text{N}(\text{CH}_2\text{CH}_2\text{OH})\text{COCH}_2\text{-}$ , or  
 $\text{-N}(\text{CH}_3)\text{COCH}_2\text{N}(\text{CH}_2\text{CH}_2\text{OH})\text{COCH}_2\text{-}$ .

17. (Previously Presented) A process according to claim 12, wherein the nucleofuge group is

F, Cl, Br, I,  $\text{-OTs}$ ,  $\text{-OMs}$ , OH,



18. (Previously Presented) A pharmaceutical composition that contains a metal complex according to claim 1 in a molar ratio of 49:1 to 4:1.

19. (Previously Presented) A process according to claim 12, wherein the nucleofuge group is

F, Cl, Br, I, OH ,

